INTERNATIONALSEARCHREPORT

International application No. PCT/JP2004/6721

CLASSIFICATIONOFSUBJECTMATTER

B21C23/00, B21C23/08, B22D11/00, B22D11/20, B22D11/049, B22D11/22

According to International Patent Classification (IPC) or to both national classification and IPC

FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B21C23/00, B21C23/08, B22D11/00, B22D11/20, B22D11/049, B22D11/22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Japanese Utility Model Gazette 1922-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2004, Japanese Registered Utility Model Gazette 1994-2004, Japanese Gazette Utility Model Containing the Utility Model 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No. 1, 2, 3, 12, 13, 14 4-11, 15-17		
The Japan Society for Technology of Plasticity, Extrusion - from Fundamental			
up-to-date Techniques -, Japan, CORONA PUBLISHING CO., LTD, 1992, ISBN 4-399-04354-0, pages 71,73,80-82			
MITAMURA Ryota, Continuous Casting of Aluminum, JOURNAL OF JAPAN INSTITUTE OF LIGHT METALS, April 31, 1980, Vol.30, No.4, pages 227-235	4-11,15-17		
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	The Japan Society for Technology of Plasticity, Extrusion - from Fundamentals to up-to-date Techniques -, Japan, CORONA PUBLISHING CO., LTD, 1992, ISBN 4-399-04354-0, pages 71,73,80-82 MITAMURA Ryota, Continuous Casting of Aluminum, JOURNAL OF JAPAN INSTITUTE OF LIGHT METALS, April 31, 1980, Vol.30, No.4, pages 227-235 JP 7-284840 A (SHOWA ALUM CORP) 1005-10-21		

Further documents are listed in the continuation of Box C. Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date mational filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan Telephone No. +81-3-3581-1101 Ext. 3423									
"A" document defining the general state of the art which is not considered to be of particular relevance articles and not in conflict with the application but cited to understand the principle or theory underlying the invention and the principle or theory underlying the invention and the principle or theory underlying the invention cannot be considered to involve an inventive step when the document is taken alone document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan Telephone No. +81-3-3581, 1101, Ent. 240-3					Se	e patent family annex.			
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document published after the internation and filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such document is combination being obvious to a person skilled in the art document member of the same patent family Date of mailing of the international search report 28.07.2004 Name and mailing address of the ISA/JP Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan Telephone No. +81-3-3581, 1101, Fire 2422	1 *	Special categories of cited documents:							
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search Japan Patent Office Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan Adocument of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents ocombination being obvious to a person skilled in the art document member of the same patent family Date of mailing of the international search report 7. document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such document member of the same patent family Date of mailing of the international search report 7. Solution of the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such document is combined with one or more other such documents when the document is document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such document is document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed invention cannot document of particular relevance; the claimed invention cannot of the considered to involve an inventive step when the document of particular relevance; the claimed invention cannot of the considered to involve an inventive step when the document of the considered to involve an inventive step when the document of the considered to involve an inventive		document defining the general state of the art which is not considered to be of particular relevance			r do rity	cument published after date and not in conflict	the inte	ernational f	filing date or
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